

ECAD5012

LEADING THE LEARNING: WHAT, HOW, AND WHY AM I TEACHING?

**A PRESENTATION OF THE CRITICAL EVALUATION OF HOW ASSESSMENT FOR LEARNING CAN
BE UTILISED IN A LEARNING EPISODE TO AID PROGRESSION ACROSS AN AREA OF LEARNING
AND EXPERIENCE.**

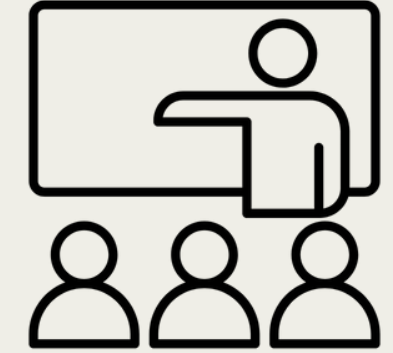
Phoebe Swales

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BA2 - Primary Education with QTS

17.1.25

PRESENTATION STRUCTURE



Introduction -

- What is Assessment for Learning?
- Why is Assessment for Learning important in terms of pupil progression?

Class Context

- A brief overview of the cohort for which the learning episode is intended. This includes a description of learners' ability levels and learning needs.

Literature Review

- Linking theory to practice.
- Educational Controversy and Criticism.

AoLE - Maths and Numeracy

- An explanation into my choice of AoLE
- How can Assessment for Learning be implemented into a Maths and Numeracy learning episode to enhance engagement and understanding?

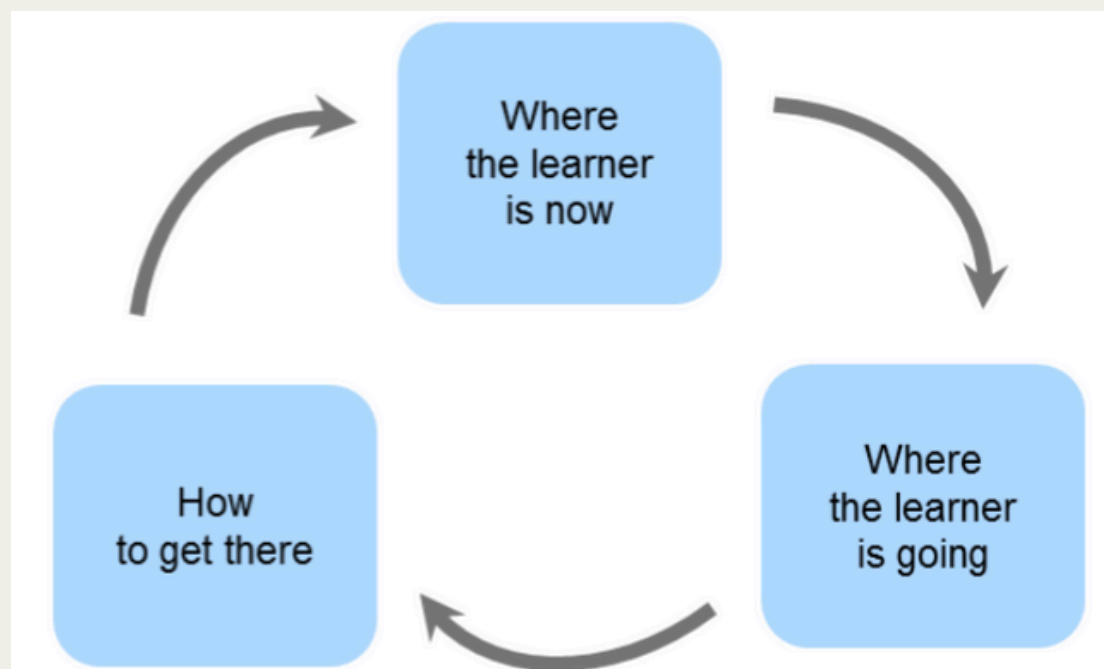
Description of Lesson Planning Decisions

- Identification and explanation of the Assessment for Learning strategies implemented within my learning episode, providing a rationale for each.

Conclusion and Future Recommendations

INTRODUCTION TO ASSESSMENT FOR LEARNING (AFL)

- “Assessment for learning refers to the ongoing use of assessment as a core element of teaching, also known as formative assessment, rather than assessing pupils at the end of a period of learning, for example a Key Stage, which is known as summative assessment” (Welsh Parliament - Senedd Research, 2017).
- The Curriculum for Wales, underpinned by Twelve Pedagogical Principles, states that good teaching and learning ‘means employing assessment for learning principles’ (Welsh Government, 2022).
- “Assessment for Learning - where the first priority is to promote learning - is a key means of initiating improvement” (Ko & Sammons, 2013, p. 2).



- “AFL involves students becoming more active in their learning and starting to ‘think like a teacher’. They think more actively about where they are now, where they are going and how to get there” (Cambridge International Education Teaching and Learning Team, n.d.).

(Cambridge International Education Teaching and Learning Team, n.d.)

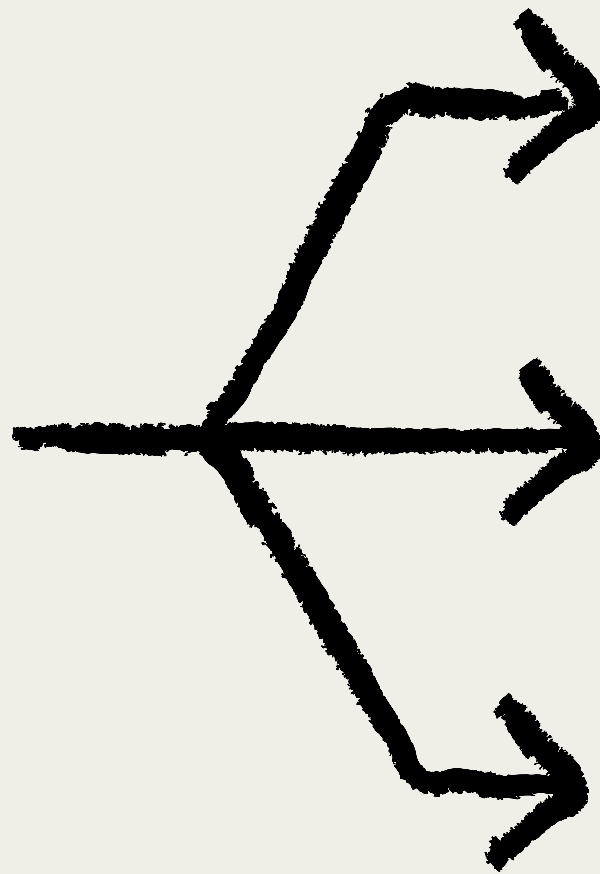
QTS Standard - Pedagogy (Refining) P3 - “The range of purposes and practices for assessment is understood and implemented” (APLP, 2020).

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MEET CLASS 6.2

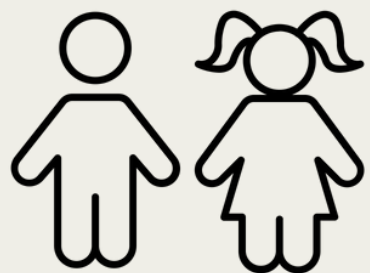
Class 6.2



23 Learners, aged 10-11

4 Additional Learning Needs (**ALN**)
Learners

3 More Able and Talented (**MAT**)
Learners



LITERATURE REVIEW

What is Assessment for Learning?

- Pedagogical approach that emphasizes the use of assessment to inform teaching and enhance learning rather than solely to evaluate attainment.
- Black and Wiliam (1998) describe AfL as an iterative process where teachers use feedback from formative assessments to adjust instruction to meet learners' needs.
- AfL prioritizes active learner engagement, fostering metacognition and self-regulation (Sadler, 1989), which are critical for long-term educational progress.
- Carol Dweck's (2006) work on growth mindset also aligns with AfL principles, as it emphasizes the importance of feedback in promoting persistence, effort, and the belief that abilities can improve with practice.

How Can The Effective Implementation of AfL Aid Pupil Progression?

- Black and Wiliam (1998) found that formative feedback can significantly improve attainment, especially for lower-achieving learners, by providing actionable insights and reducing performance anxiety.
- Sadler (1989) underscores that effective feedback bridges the gap between current performance and desired outcomes, enabling learners to refine their understanding and skills.
- AfL practices such as peer assessment and self-assessment further cultivate critical thinking and collaborative learning (Vygotsky, 1978), preparing students for lifelong learning.

LITERATURE REVIEW

Educational Contraversy and Criticism

- Critics argue that it can become overly procedural and divorced from its core principles (Klenowski, 2009).
- Some educators struggle with its implementation, finding it challenging to balance formative and summative assessment demands.
- Dweck (2006) notes that poorly framed feedback can inadvertently reinforce fixed mindsets, discouraging learners. Moreover, opponents question whether AfL is truly feasible in high-stakes educational environments, where external pressures often prioritize summative assessments over formative practices.

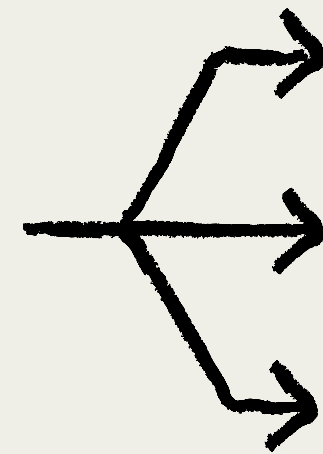
Therefore, it can be argued that while the benefits of AfL in terms of learner progression are widely recognised, its effectiveness depends on educated and effective implementation.



DESCRIPTION OF LESSON PLANNING DECISIONS



Mathematics and Numeracy



“Mandatory Cross-Curricular Skill”

“Cross-Curricular Skills Framework”

“Literacy and Numeracy Framework (LNF)”

(Welsh Government, 2022).



(Oxford University Press, 2022)

- “Progression in the Mathematics and Numeracy Area of Learning and Experience involves the development of five connected and interdependent proficiencies which have no hierarchy”
 - “Conceptual understanding
 - Communication using symbols
 - Fluency
 - Logical reasoning
 - Strategic competence”

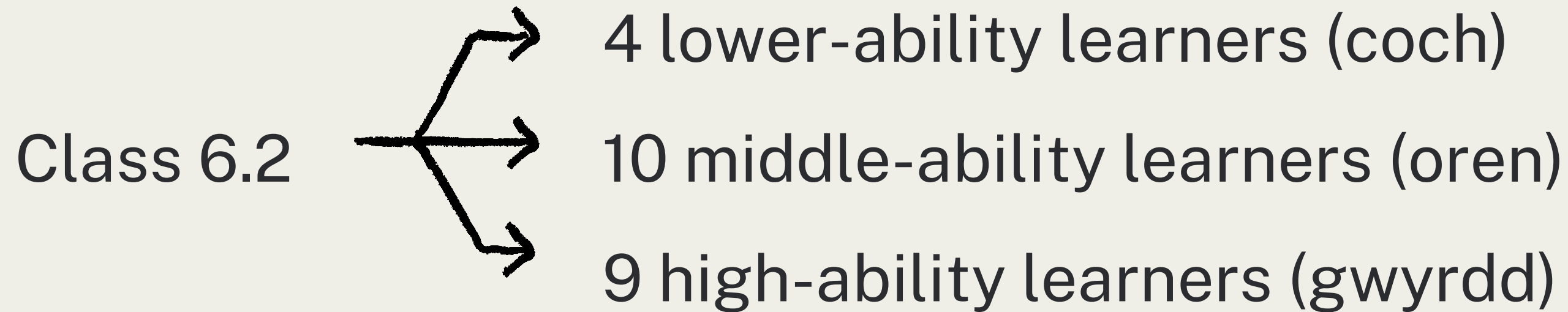
(Welsh Government, 2022).

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AOLE - MATHS AND NUMERACY



- Implementing AfL strategies is essential to identify individual strengths and areas for improvement, enabling tailored instruction that supports all pupils' progression in maths and numeracy (Black and Wiliam, 1998).



AOLE - MATHS AND NUMERACY

- **The number system is used to represent and compare relationships between numbers and quantities.**

(Welsh Government, 2022).

Progression step 3

I can demonstrate my understanding that non-integer quantities can be represented using fractions (including fractions greater than 1), decimals and percentages. I can use my knowledge of equivalence to compare the size of simple fractions, decimals and percentages and I can convert between representations.



(Welsh Government, 2022).

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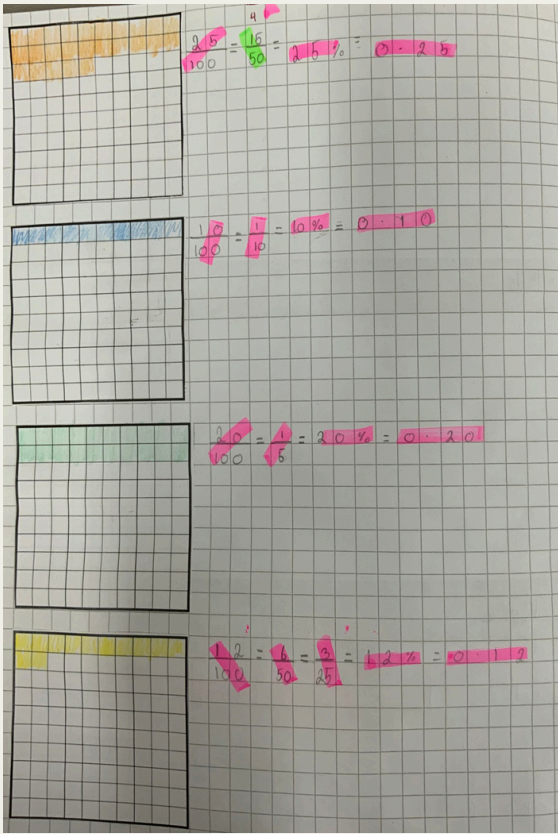
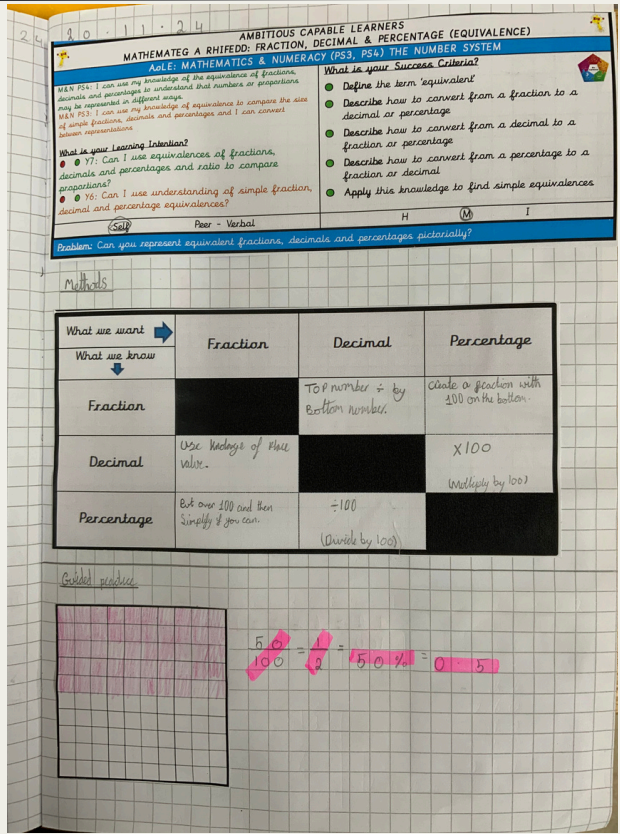
AOLE - MATHS AND NUMERACY

What we Want →	Fraction	Decimal	Percentage
What we Know ↓			
Fraction		Numerator + Denominator (Bus-stop method)	Create an equivalent fraction with a denominator of 100
Decimal	Use knowledge of place value. 0.23 (the 3 is 3 hundredths = $\frac{23}{100}$)		X 100 (Multiply by 100)
Percentage	Put over 100 and then simplify	+ 100 (Divide by 100)	

(Images taken from lesson plan attached)



(Dowling Magnets, n.d)

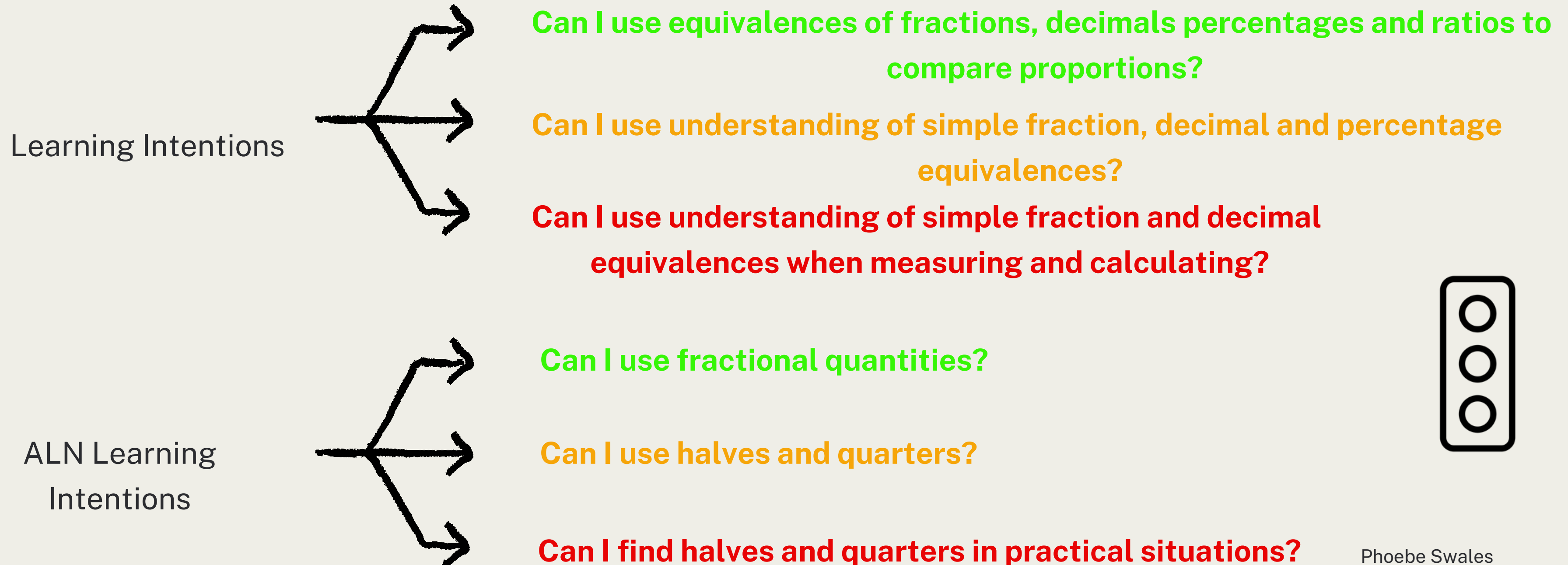


(Images of learners work, taken by myself)

- Structured, interactive activity designed to build their conceptual understanding and procedural fluency in this area. Research supports the integration of concrete, pictorial, and abstract representations to help learners make connections between mathematical concepts (Bruner, 1966; Van de Walle et al., 2013).
- Pre-assessment through a "skills slip" encourages metacognition, as learners reflect on their understanding and identify areas for growth (Flavell, 1979).
- The use of a conversion help sheet aligns with scaffolding principles, which support learners in gradually building independence in problem-solving (Wood, Bruner & Ross, 1976).
- The square shading activity incorporates active learning strategies, encouraging learners to engage physically and cognitively with mathematical concepts (Piaget, 1952).
- Random questioning fosters accountability and peer learning, as supported by the principles of collaborative learning (Vygotsky, 1978).
- . The structured conclusion, where learners indicate their understanding with a 1-5 finger scale - “Fist to Five” and select their independent practice level, provides an opportunity for differentiation and learner agency (Tomlinson, 2001).

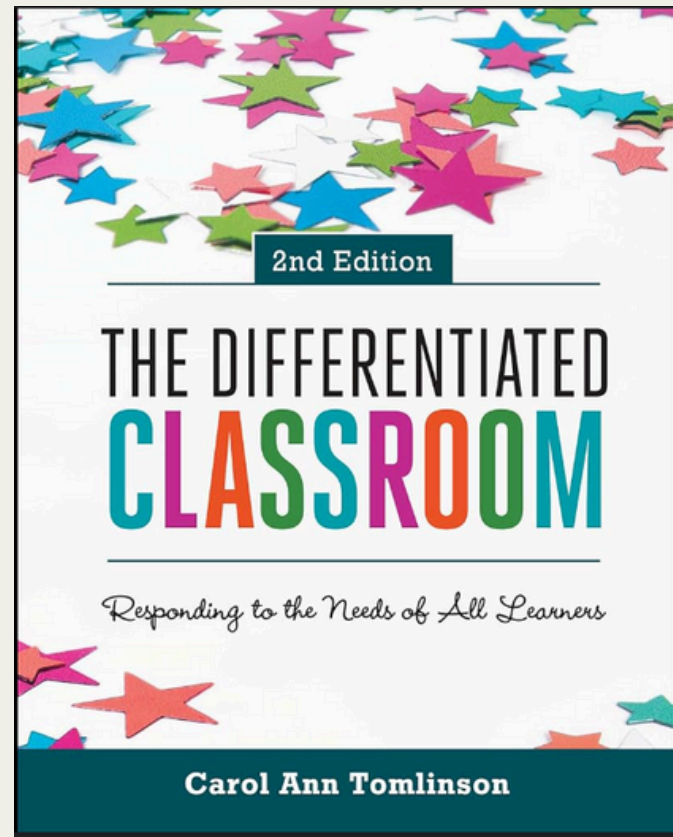
DESCRIPTION OF LESSON PLANNING DECISIONS

Differentiated Learning Intentions and Success Criteria



DESCRIPTION OF LESSON PLANNING DECISIONS

Differentiated Learning Intentions and Success Criteria



"Effective differentiation begins with clarity about what students should know, understand, and be able to do — learning goals and success criteria that reflect high expectations and are tailored to varied readiness levels, interests, and learning profiles." (Tomlinson, 2014, p. 18).



“Assessment that is designed to promote learning focuses on how students learn and enables teachers to adapt their teaching to meet individual student needs.” (Black and Wiliam, 1998, p. 10). This underscores the importance of aligning learning intentions with students’ individual needs abilities to enhance accessibility and support progression.



“Ability grouping has the potential to stigmatise those placed in lower groups, leading to feelings of inadequacy and reduced motivation, especially if the grouping is seen as fixed.” (Hallam and Ireson, 2005, p. 17).



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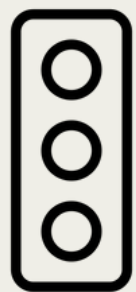
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DESCRIPTION OF LESSON PLANNING DECISIONS

✓

Pre & Post Self-Assessment - RAG scoring



AMBITIOUS CAPABLE LEARNERS MATHEMATEG A RHIFEDD: FRACTIONS			
AoLE: MATHEMATICS & NUMERACY (PS2) THE NUMBER SYSTEM			
M&N PS2: I am beginning to understand that unit fractions represent equal parts of a whole and are a way of describing quantities and relationships. <u>What is your Learning Intention?</u> ○ ○ Can I use fractional quantities? ○ ○ Can I use halves and quarters? ○ ○ Can I find halves and quarters in practical situations?		<u>What is your Success Criteria?</u> ○ Identify halves ○ Identify quarters ○ Identify fractional quantities	
Self Peer - Verbal		H	M I

AMBITIOUS CAPABLE LEARNERS MATHEMATEG A RHIFEDD: FRACTION, DECIMAL & PERCENTAGE (EQUIVALENCE)			
AoLE: MATHEMATICS & NUMERACY (PS3) THE NUMBER SYSTEM			
M&N PS3: I can use my knowledge of equivalence to compare the size of simple fractions, decimals and percentages and I can convert between representations. <u>What is your Learning Intention?</u> ○ ○ Y6: Can I use understanding of simple fraction, decimal and percentage equivalences? ○ ○ Y5: Can I use understanding of simple fraction and decimal equivalences when measuring and calculating?		<u>What is your Success Criteria?</u> ○ Define the term 'equivalent' ○ Describe how to convert from a fraction to a decimal or percentage ○ Describe how to convert from a decimal to a fraction or percentage ○ Describe how to convert from a percentage to a fraction or decimal ○ Apply this knowledge to find simple equivalences	
Self Peer - Verbal		H	M I
Problem: Can you represent equivalent fractions, decimals and percentages pictorially?			

By encouraging students to self-assess their understanding at the start and end of the lesson, this strategy fosters metacognitive skills, enabling learners to track their own learning and identify areas of improvement (Boud, 2000).

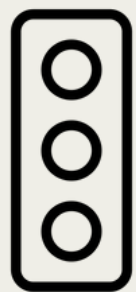
Differentiated success criteria ensures that learners of varying abilities can engage with the lesson content in an accessible manner, promoting progression for all students (Tomlinson, 2014).

AMBITIOUS CAPABLE LEARNERS MATHEMATEG A RHIFEDD: FRACTION, DECIMAL & PERCENTAGE (EQUIVALENCE)			
AoLE: MATHEMATICS & NUMERACY (PS3, PS4) THE NUMBER SYSTEM			
M&N PS4: I can use my knowledge of the equivalence of fractions, decimals and percentages to understand that numbers or proportions may be represented in different ways. M&N PS3: I can use my knowledge of equivalence to compare the size of simple fractions, decimals and percentages and I can convert between representations. <u>What is your Learning Intention?</u> ○ ○ Y7: Can I use equivalences of fractions, decimals and percentages and ratio to compare proportions? ○ ○ Y6: Can I use understanding of simple fraction, decimal and percentage equivalences?		<u>What is your Success Criteria?</u> ○ Define the term 'equivalent' ○ Describe how to convert from a fraction to a decimal or percentage ○ Describe how to convert from a decimal to a fraction or percentage ○ Describe how to convert from a percentage to a fraction or decimal ○ Apply this knowledge to find simple equivalences	
Self Peer - Verbal		H	M I
Problem: Can you represent equivalent fractions, decimals and percentages pictorially?			

Self-reflection supports deeper learning, as students are more likely to internalize feedback and make necessary adjustments to their approach to learning (Black and Wiliam, 1998).

DESCRIPTION OF LESSON PLANNING DECISIONS

✖ Pre & Post Self-Assessment - RAG scoring



AMBITIOUS CAPABLE LEARNERS MATHEMATEG A RHIFEDD: FRACTIONS	
AoLE: MATHEMATICS & NUMERACY (PS2) THE NUMBER SYSTEM	
M&N PS2: I am beginning to understand that unit fractions represent equal parts of a whole and are a way of describing quantities and relationships.	What is your Success Criteria? - Identify halves - Identify quarters - Identify fractional quantities
What is your Learning Intention? - Can I use fractional quantities? - Can I use halves and quarters? - Can I find halves and quarters in practical situations?	
Self Peer - Verbal	H M I

AMBITIOUS CAPABLE LEARNERS MATHEMATEG A RHIFEDD: FRACTION, DECIMAL & PERCENTAGE (EQUIVALENCE)	
AoLE: MATHEMATICS & NUMERACY (PS3) THE NUMBER SYSTEM	
M&N PS3: I can use my knowledge of equivalence to compare the size of simple fractions, decimals and percentages and I can convert between representations.	What is your Success Criteria? - Define the term 'equivalent' - Describe how to convert from a fraction to a decimal or percentage - Describe how to convert from a decimal to a fraction or percentage - Describe how to convert from a percentage to a fraction or decimal - Apply this knowledge to find simple equivalences
What is your Learning Intention? - Y6: Can I use understanding of simple fraction, decimal and percentage equivalences? - Y5: Can I use understanding of simple fraction and decimal equivalences when measuring and calculating?	
Self Peer - Verbal	H M I
Problem: Can you represent equivalent fractions, decimals and percentages pictorially?	

If students lack sufficient understanding of the success criteria, they may struggle to accurately assess their own progress, potentially leading to a mismatch between perceived and actual achievement (McMillan, 2007).

AMBITIOUS CAPABLE LEARNERS MATHEMATEG A RHIFEDD: FRACTION, DECIMAL & PERCENTAGE (EQUIVALENCE)	
AoLE: MATHEMATICS & NUMERACY (PS3, PS4) THE NUMBER SYSTEM	
M&N PS4: I can use my knowledge of the equivalence of fractions, decimals and percentages to understand that numbers or proportions may be represented in different ways. M&N PS3: I can use my knowledge of equivalence to compare the size of simple fractions, decimals and percentages and I can convert between representations.	What is your Success Criteria? - Define the term 'equivalent' - Describe how to convert from a fraction to a decimal or percentage - Describe how to convert from a decimal to a fraction or percentage - Describe how to convert from a percentage to a fraction or decimal - Apply this knowledge to find simple equivalences
What is your Learning Intention? - Y7: Can I use equivalences of fractions, decimals and percentages and ratio to compare proportions? - Y6: Can I use understanding of simple fraction, decimal and percentage equivalences?	
Self Peer - Verbal	H M I
Problem: Can you represent equivalent fractions, decimals and percentages pictorially?	

Students with lower confidence may be more likely to underreport their success, while those with higher confidence may overestimate their progress, which could limit the effectiveness of the strategy (Brown and Harris, 2013).

DESCRIPTION OF LESSON PLANNING DECISIONS



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AMBITIOUS CAPABLE LEARNERS
MATHS: FRACTION, DECIMAL & PERCENTAGE (EQUIVALENCE)
AOL: MATHEMATICS & NUMERACY (PS3, PS4) THE NUMBER SYSTEM

MAN PS4: I can use my knowledge of the equivalence of fractions, decimals and percentages to understand that numbers or proportions may be represented in different ways.
MAN PS3: I can use my knowledge of equivalence to compare the size of simple fractions, decimals and percentages and I can convert between representations.

What is your Learning Intention?
● Y7: Can I use equivalences of fractions, decimals and percentages and ratio to compare proportions?
● Y6: Can I use understanding of simple fraction, decimal and percentage equivalences?

What is your Success Criteria?
● Define the term 'equivalent'
● Describe how to convert from a fraction to a decimal or percentage
● Describe how to convert from a decimal to a fraction or percentage
● Describe how to convert from a percentage to a fraction or decimal
● Apply this knowledge to find simple equivalences

Problem: Can you represent equivalent fractions, decimals and percentages pictorially?

Methods

What we want What we know	Fraction	Decimal	Percentage
Fraction		Top number ÷ by Bottom number.	Create a fraction with 100 on the bottom.
Decimal	Use knowledge of Place Value.		x100 (Multiply by 100)
Percentage	Put over 100 and then Simplify if you can.	÷100 (Divide by 100)	

Golden practice

$\frac{50}{100} = \frac{1}{2} = 50\% = 0.5$

Live Marking



Live marking is effective in promoting pupil progression due to its immediacy and targeted feedback.

Who Agrees?

- By addressing errors or misconceptions during the lesson, live marking ensures that pupils receive timely interventions, preventing the reinforcement of incorrect methods or concepts (Black and Wiliam, 1998).
- Actionable feedback — clear, specific, and aligned with learning objectives — empowers pupils to understand precisely what needs improvement and how to achieve it (Shute, 2008).
- The use of color-coded feedback engages pupils by making progress visible, encouraging self-reflection and active participation (Shirvani, 2009).

“Green for Growth” and “Tickled Pink”

DESCRIPTION OF LESSON PLANNING DECISIONS

Live Marking

Who Disagrees?

- Hattie and Timperley (2007) caution that the effectiveness of feedback depends on its clarity, timing, and relevance to the learning goals. They argue that poorly executed live marking can disrupt lesson flow and overwhelm pupils with information, detracting from deeper learning).
- There is a risk of over-reliance on immediate feedback, which may limit pupils' opportunities and problem-solving skills.

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AMBITIOUS CAPABLE LEARNERS
MATHS: FRACTION, DECIMAL & PERCENTAGE (EQUIVALENCE)
MATHS: FRACTION, DECIMAL & PERCENTAGE (PS3, PS4) THE NUMBER SYSTEM
AOL: MATHEMATICS & NUMERACY

What is your Success Criteria?

- Define the term 'equivalent'
- Describe how to convert from a fraction to a decimal or percentage
- Describe how to convert from a decimal to a fraction or percentage
- Describe how to convert from a percentage to a fraction or decimal
- Apply this knowledge to find simple equivalences

What is your Learning Intention?

- Y7: Can I use equivalences of fractions, decimals and percentages and ratio to compare proportions?
- Y6: Can I use understanding of simple fraction, decimal and percentage equivalences?

Peer - Verbal H M I

Problem: Can you represent equivalent fractions, decimals and percentages pictorially?

Methods

What we want	Fraction	Decimal	Percentage
What we know			
Fraction		Top number ÷ by bottom number	Create a fraction with 100 on the bottom
Decimal	Use knowledge of place value		×100 (multiply by 100)
Percentage	Put over 100 and then simplify if you can	÷100 (Divide by 100)	

Guided practice

$\frac{5}{100} = \frac{1}{20} = 5.0\% = 0.05$

$\frac{2.5}{100} = \frac{25}{1000} = 2.5\% = 0.025$

$\frac{10}{100} = \frac{1}{10} = 10\% = 0.10$

$\frac{20}{100} = \frac{1}{5} = 20\% = 0.20$

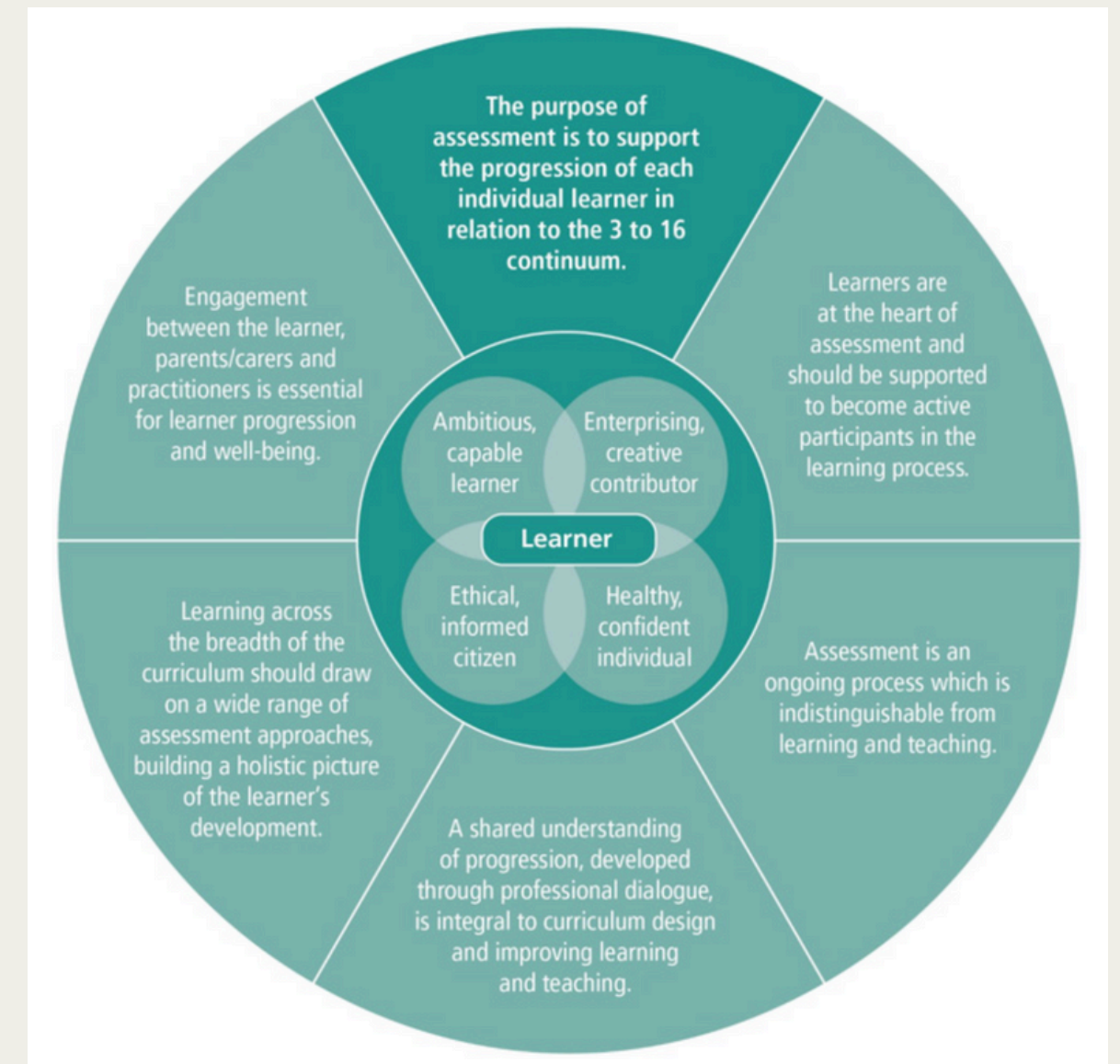
$\frac{2}{100} = \frac{1}{50} = 2\% = 0.02$

Despite these challenges, the thoughtful application of this approach aligns with school-wide strategies and responsive teaching principles, demonstrating how tailored feedback can drive pupil progression by fostering clarity and engagement in their learning journey.

CONCLUSION AND FUTURE RECOMMENDATIONS

- Assessment for Learning (AfL) is a powerful pedagogical approach that, when effectively implemented, can significantly enhance learner progression in a year 6 Maths and Numeracy learning episode by promoting active engagement, self-regulation, and a deeper understanding of the Curriculum for Wales.
- AfL strategies such as formative feedback, self-assessment, and live marking foster a collaborative and reflective learning environment that aligns with the principles of the Curriculum, with assessment acting as a vital component in developing its Four Purposes.
- However, to maximize its potential, educators must ensure that AfL practices are consistently learner-focused and integrated with clear learning objectives, with all collated evidence being acted upon.
- It is also important to consider the well-being of the learner at all times throughout the implementation of these strategies, fostering a growth mindset and avoiding negative self-perceptions where possible.

To develop my future teaching practice, I would like to refine my use of formative assessment tools and strategies through research and observation. Additionally, in preparation for PTE2b, I would like to research into balancing formative and summative assessment demands, particularly in year 6 classrooms during a period of National Testing, as I believe this is essential to support sustainable and impactful AfL practices.



(Welsh Government, n.d.)

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Thank You For Listening

**WHAT ARE YOUR
QUESTIONS?**

2314717

Student-teacher:	 Phoebe Swales	Class / Group:	Year 6.2	Partneriaeth Dysgu Proffesiynol Yr Athrofa Yr Athrofa Professional Learning Partnership Trawsnewid Addysg Gyda'n Gilydd Transforming Teaching Together
AoLE or Subject:	Maths & Numeracy Guided Practice	Date (please note that this may be a continuous session):	21.11.24	
Meaningful links to Curriculum (What Matters Statements, Descriptions of learning, ‘previous’ curriculum...)	What Matters Statement 1 – The number system is used to represent and compare relationships between numbers and quantities. Descriptions of Learning (PS3) - I can demonstrate my understanding that non-integer quantities can be represented using fractions (including fractions greater than 1), decimals and percentages. I can use my knowledge of equivalence to compare the size of simple fractions, decimals and percentages and I can convert between representations. Four Purposes – Ambitious, Capable Anwen			
Meaningful links across the curriculum Links to other AoLEs or the Cross-curricular skills frameworks)	-			
Personal Targets (targets and consequent impact on learning - refer to any targets that have been identified in learning journal or weekly reflection meeting and describe the desired impact on learning) P2 Differentiation - The student-teacher demonstrates knowledge, understanding and experience of high expectations and effective practice in meeting the needs of all learners, whatever their different needs. Class 6.2 includes 23 learners across a wide range of ability levels. Applying differentiation strategies is essential when planning and delivering lessons across all AoLEs here, to ensure that all learners receive the support and scaffolding that they require to access the learning intention, and higher ability learners are challenged appropriately.				

Learning Intention

'This should focus on the pupils' learning during the lesson, rather than what they will be doing, and should be short, achievable and measurable.' (Crichton, H., and Mcdaid, A. 2016 p. 196)

- Y7: Can I use equivalences of fractions, decimals and percentages and ratio to compare proportions?
- Y6: Can I use understanding of simple fraction, decimal and percentage equivalences?
- Y5: Can I use understanding of simple fraction and decimal equivalences when measuring and calculating?

ALN

- Can I use fractional quantities?
- Can I use halves and quarters?
- Can I find halves and quarters in practical situations?

Success Criteria

What the pupils need to demonstrate to successfully meet the Learning Intention.

- Define the term 'equivalent'
- Describe how to convert from a fraction to a decimal or percentage
- Describe how to convert from a decimal to a fraction or percentage
- Describe how to convert from a percentage to a fraction or decimal
- Apply this knowledge to find simple equivalences

ALN

- Identify halves
- Identify quarters
- Identify fractional quantities

Planning for misconceptions:

Use this section to anticipate pupil errors and misunderstandings and your planned responses to them.

Class 6.2 = RC, LD, LG-S, HH, TH, JK, KO, SP, ET

DB, LC, DD, DE, JH, JM, AS, SS, AW, UW

DA, ZA, RS, JV

To support DA, ZA, RS, JV, I intent to use visual aids such as numicon, 100 square grids and number lines, as well as providing step-by step verbal instruction to ensure the activity is inclusive to all. Learners will also have access to whiteboards if needed.

For all learners, I will ensure to scaffold the lesson effectively, using detailed step-by-step instruction and modelling techniques. As well as this, I intend to regularly re-cap the conversion techniques to re-enforce the methodology and success criteria.

Strategies to support learners' Welsh language development

Incidental Welsh – bore da, coch, oren, gwyrdd, glas, oes cwestiwn gyda ti?, da iawn, pwys i'n barod? Pa liw? Pa rhif? yn gyntaf, nesaf, yn olaf

Resources – Guided Practice Resource will have bilingual vocabulary eg. (6, chwech)

SEQUENCE OF TEACHING & LEARNING

(Add or remove rows below as appropriate)

Timing: <i>Break down timings into groups if appropriate. ensure pupils are 'doing' quickly and that transitions are taken into account</i>	Role of the teacher & support staff: <i>e.g., key questions, retrieval of prior learning, modelling and explanations, checking understanding, planned use of additional adults.</i> <i>Choice of pedagogical model or of the 12 pedagogical principles</i>	Pupils' learning and activities: <i>What will the pupils be learning to do and what activities / resources will facilitate this?</i> <i>Please refer to Foundation Learning planning document for details of continuous provision.</i>	Inclusive Strategies (including differentiation): <i>Reasons for and details of scaffolding.</i> <i>Types of representation in tasks.</i>	Check what pupils know, understand, and can do: <i>Key questions, types of retrieval practices, self and peer assessment opportunities, purposeful AfL strategies, live marking opportunities, planned feedback.</i>
Introduction: 10 Mins	To begin the lesson, set up the Guided Practice PowerPoint presentation, ask book monitors to hand out Maths books and Skills Slips. Introduce the Problem: Can you represent equivalent fractions, decimals and percentages pictorially? Explain what 'Per cent' means. The word "percent" means "per hundred" or "out of 100." It is a way to talk about parts of a whole, where the whole is divided into 100 equal parts.	Learners will need to stick their skills slip into their maths book, and pre-RAG score their skills slip. Learners will listen to the description of each skill and self-assess their knowledge accordingly. Learners will be asked retrieval practice questions to express any prior knowledge on fractions, decimals and percentages – higher ability learners may be able to describe a relationship between the three. Learners will share their ideas for possible methods we could use to represent equivalent fractions, decimals and percentages pictorially. Resources – PowerPoint Presentation, Maths books, Skills Slips.	Mixed ability class <i>Scaffolding</i> • Provide visual aids for all learners (laminated circles with different percentages/fractions/decimals shaded) - place these on each table. • Ensure lower ability learners can visually see the representation of different percentages.	Self-Assessment - APK Learners will be required to pre-RAG score their skills slip based on how developed they believe their skills already are within the topic of FDP equivalences. This will be directly linked to the success criteria. Make sure to explain each skill listed and encourage learners to evaluate each skill individually (rather than automatically use the same rating for each skill). Key Questions <i>Retrieval Practices</i> – Thinking Time

	<i>Think of it like a big pizza with 100 tiny slices!</i> • 1% means 1 out of 100 slices. • 50% means 50 out of 100 slices. • 100% means all 100 slices, or the whole pizza <i>Modelling</i> – Use Pizza templates to shade different FDP within each pizza. Talk through FDP Equivalences PPT, ensuring to ask ‘big’ questions and highlight and correct any misconceptions that may occur. Pedagogical Principle 3 means employing a blend of approaches including direct teaching.		• Begin with simple percentages to ensure the understanding of learners.	• What might ‘Percent mean’? • How might we display different percentages using a 100 square grid? • Where might percentages be used in real-life scenarios?
Main Activity 50 Mins	Method – Conversion Help Sheet Work through the conversion help sheet, filling in gaps to determine the correct techniques used for conversions. Show workings out on whiteboard, talk through answers and methods. Ensure all learners are following along and are at the same point in the conversion sheet.	Learners will follow instructions to fill in a conversion help sheet. Learners will contribute to discussion regarding ways to convert equivalent fractions, decimals and percentages. Learners will do this by answering retrieval practice questions. Learners will then use their conversion help sheet when completing the square shading activity. Learners will be required to shade different percentages of their square (eg. 50%, 25%, 75%). Learners will then need to convert this to a fraction and a decimal using the methods listed in their sheet.	<i>Scaffolding</i> Provide visual aids for all learners. Ensure lower ability learners can visually see the representation of different percentages. Begin with simple percentages to ensure the understanding of learners. Provide higher ability learners with more	Use live marking to identify and address misconceptions during the square shading task, providing immediate corrections. I will deliver verbal feedback to guide understanding, celebrate successes, and encourage reflection through questioning techniques.

What we Want →	Fraction	Decimal	Percentage
What we Know ↓			
Fraction		Numerator + Denominator (Bus-stop method)	Create an equivalent fraction with a denominator of 100
Decimal	Use knowledge of place value. 0.23 (the 3 is 3 hundredths = $\frac{23}{100}$)		X 100 (Multiply by 100)
Percentage	Put over 100 and then simplify	+ 100 (Divide by 100)	

Square Shading Activity

Introduce learners to the square shading activity. Re-cap methods shown in the conversion help sheet.

Whilst learners are completing this activity, ensure to observe and support learners and correct misconceptions where necessary.

Additionally, promote higher order thinking amongst higher ability learners by asking 'big' questions such as 'How do you know that ____?' 'Can you prove that ____?'

Resources – Conversion Help sheet x23, Square Shading templates x23, FDP Equivalences Visual Aids x12

challenging FDP Equivalences to display.

I will use *modelling techniques* here if learners are struggling to visualise 50%. 25%, 10%, 75% and 100% within the square (can use numicon for this).

Key Questions

Look back to your conversion help sheet, how might we convert this fraction to a decimal?

Rewards – House Points

Plenary
10 Mins

Once learners have completed the Square Shading Activity for 40 minutes – encourage them to finish the task/problem they are on.

Pedagogical Principle 7 means employing assessment for learning principles.

Learners will be randomly selected (using lolly sticks) to explain the methods they have used to complete each question. Learners will have the option to pass the question to a peer if they are not confident in answering themselves.

Learners will use 'tickled pink' and 'green for growth' to self-assess their work using the answer slide displayed.

Lolly sticks

Using lolly sticks as an AfL strategy here will allow a randomised approach when selecting a learner to explain their answer to their selected guided practice question. This will allow me to immediately interpret the understanding of a variety of pupils – rather

	Use lolly sticks to select a random learner to share their answer to a question and the methods they used to reach it. Repeat x3. Flip to the answers slide on the PowerPoint for learners to self-assess their work using tickled pink and green for growth, red pen for corrections. From here, refer to the success criteria on the skills slip. Re-cap descriptions of each skill listed and encourage learners to post-RAG score and select the ability level they would like to work at during an 'Independent Practice' session on FDP Equivalences (Coch, <u>oren</u>, <u>gwyrdd</u>). Pedagogical Principle 10 encourages learners to take increasing responsibility for their own learning.	Learners will be required to select the ability level they would like to work at during 'Independent Practice' in the following session, based on their understanding. Learners will choose from Coch, Oren or <u>Gwyrdd</u>. Learners need to draw a line under their guided practice work and write 'Independent Practice' and the date for the following day (<u>--.---.---</u>). To conclude the lesson, learners will be asked to raise their hand and display 1-5 fingers to display their understanding of FDP Equivalences.	than purely volunteers who are confident in their ability Ask The Audience If a learner is selected to answer a question via lolly sticks and appears to be struggling, they have the option to 'ask the audience' (peer) and pass the question onwards. Self-Assessment The use of self-assessment here will allow pupils to hold accountability for their learning – fostering self-awareness. Fist to 5 Learners will be asked to raise their hand and display 1-5 fingers to display their understanding. I will make note of learners showing 0-2 fingers in preparation for their Independent Practice lesson.  The 'Fist to Five' scale is a vertical bar with six colored sections, each with a hand icon and a description of the level of understanding. From top to bottom: 5 (blue, 'I completely understand (can teach it)'), 4 (orange, 'I mostly understand (can show it)'), 3 (green, 'I understand pretty well'), 2 (purple, 'I need more practice and examples'), 1 (yellow, 'I need help'), and 0 (red, 'I don't understand at all').
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PHOTOGRAPHY CONSENT FORM



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Addysg i Gymru | Education for Wales



APLP

PDPA

Partnership Cymru Professional Yr Athrofa

Yr Athrofa Professional Learning Partnership

Partnership Cymru Professional Yr Athrofa

Consent form for taking photographs and filming

Statement

Student-teachers must gain the following written consent of the head teacher before taking photographs, filming or audio recording learners.

I agree to Phoebe Swales..... as a representative of the APLA, to:

(Tick accordingly)

Take photographs ☒

Film ☒

Record ☒

Name of Head teacher/ Senior Mentor: R. Scott.....

Signature:

Name of School: Pembroke Dock Community School.....

To be completed by student-teacher:

If I am granted such permission, I agree to abide by the ethics embodied within the EWC Code of Professional Conduct and will not distribute any such material to audiences beyond the University authorities without their permission.

Name of student-teacher : Phoebe Swales.....

Signature: P. Swales.....

Student no.: 2314717.....

Programme (e.g. BA Ed/ PGCE Primary/PGCE Secondary): BA2 Primary Ed w/ ATs.....

Date: 11.11.24.....

Thank you for your co-operation.

September 2023

REFERENCE LIST

- APLP (2020) Qualified Teacher Status: Standards and Guidance for Trainee Teachers in Wales. Cardiff: APLP.
- Black, P. and Wiliam, D. (1998) 'Assessment and classroom learning', *Assessment in Education: Principles, Policy & Practice*, 5(1), pp. 7–74. Available at: <https://doi.org/10.1080/0969595980050102>.
- Black, P. & Wiliam, D. (1998). *Inside the Black Box: Raising Standards through Classroom Assessment*. London: GL Assessment.
- Boud, D. (2000) Sustainable assessment: Rethinking assessment for the learning society. *Studies in Continuing Education*, 22(2), pp. 151–167.
- Brown, G. and Harris, L. (2013) 'The effectiveness of self-assessment in higher education: A review of the literature', *Assessment & Evaluation in Higher Education*, 38(5), pp. 543–550.
- Bruner, J. S. (1966). *Toward a Theory of Instruction*. Cambridge, MA: Harvard University Press.
- Cambridge International Education Teaching and Learning Team (n.d.) Getting started with assessment for learning. Available at: <https://cambridge-community.org.uk/professional-development/gswafl/index.html> (Accessed: 12 January 2025).
- Dowling Magnets (n.d.) Fist-to-Five Check Magnets. Available at: <https://www.dowlingmagnets.com/products/Fist-to-Five-Check-Magnets/> (Accessed: 15 January 2025).
- Dweck, C. S. (2006). *Mindset: The New Psychology of Success*. New York: Random House.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist*, 34(10), pp. 906–911.
- Hallam, S. and Ireson, J. (2005) *Grouping pupils by ability: Research review*. London: Institute of Education.
- Hattie, J. and Timperley, H. (2007) 'The power of feedback', *Review of Educational Research*, 77(1), pp. 81–112.
- Klenowski, V. (2009). Assessment for Learning revisited: An Asia-Pacific perspective. *Assessment in Education: Principles, Policy & Practice*, 16(3), pp. 263–268.
- Ko, J., & Sammons, P. (2013). *Effective teaching: A review of research and evidence*. CfBT Education Trust. Available at: <https://files.eric.ed.gov/fulltext/ED546794.pdf>. (Accessed: 11 January 2025).

REFERENCE LIST

- McMillan, J.H. (2007) Classroom assessment: Principles and practice for effective standards-based instruction. 4th edn. Boston: Pearson Education.
- Oxford University Press (2022) ‘4 things you need to do to prepare for curriculum change in Wales’, Oxford Education Blog. Available at: <https://educationblog.oup.com/primary/4-things-you-need-to-do-to-prepare-for-curriculum-change-in-wales> (Accessed: 13 January 2025).
- Piaget, J. (1952). The Origins of Intelligence in Children. New York: International Universities Press.
- Sadler, D. R. (1989). Formative assessment and the design of instructional systems. Instructional Science, 18(2), pp. 119–144.
- Shirvani, H. (2009) ‘Examining an interactive classroom strategy: The effects of immediate feedback on student achievement and attitudes’, Journal of Instructional Psychology, 36(4), pp. 363–367.
- Shute, V.J. (2008) ‘Focus on formative feedback’, Review of Educational Research, 78(1), pp. 153–189. <https://doi.org/10.3102/0034654307313795>.
- Tomlinson, C. A. (2001). How to Differentiate Instruction in Mixed-Ability Classrooms. 2nd ed. Alexandria, VA: ASCD.
- Tomlinson, C.A. (2014) The differentiated classroom: Responding to the needs of all learners. 2nd edn. Alexandria, VA: ASCD.
- Van de Walle, J. A., Karp, K. S., Lovin, L. H. & Bay-Williams, J. M. (2013). Teaching Student-Centered Mathematics: Developmentally Appropriate Instruction for Grades 3–5. 2nd ed. Boston: Pearson.
- Vygotsky, L. S. (1978). Mind in Society: The Development of Higher Psychological Processes. Cambridge, MA: Harvard University Press.
- Welsh Government (2022) Curriculum for Wales. Pedagogy. Available at: <https://hwb.gov.wales/curriculum-for-wales/designing-your-curriculum/pedagogy> (Accessed: 12 January 2025).
- Welsh Government. (n.d.). [Image description]. In Supporting Learner Progression: Assessment Guidance. Hwb. Available at: <https://hwb.gov.wales/curriculum-for-wales/assessment-arrangements/supporting-learner-progression-assessment-guidance> [Accessed 15 January 2025].
- Welsh Parliament - Senedd Research (2017) Assessment for Learning or Accountability?. Available at: <https://research.senedd.wales/research-articles/assessment-for-learning-or-accountability/> (Accessed: 12 January 2025).
- Wood, D., Bruner, J. S. & Ross, G. (1976). The role of tutoring in problem solving. Journal of Child Psychology and Psychiatry, 17(2), pp. 89–100.